

### 3.03a Scatterplots: Interpreting Linear Models

1. In 2 minutes, a stenographer typed 320 words. The same stenographer was able to process 1000 words in 15 minutes. According to the linear model, what is the rate at which the stenographer types per minute? (Hint: Draw a table)

2. What is the linear equation that represents the following relation:  $\{(3, 4), (-2, 1), (8, -7), (0, 2), (1, 7)\}$ .

Based on the linear model, is the correlation positive or negative?

3. The table below shows the number of hours of exercise per week and the age of the person.

HOURS OF EXERCISE PER WEEK								
Age	38	18	26	52	32	59	21	40
Hours of Exercise	3	10	5	2.5	2	1	8	2

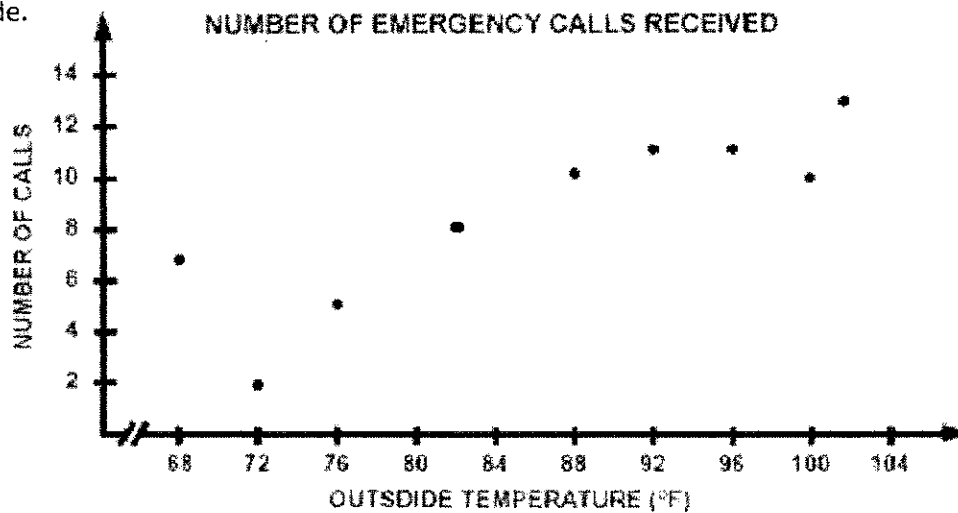
What is the equation of the line of best fit?

What is the correlation coefficient for the data?

What does the slope represent?

What does the y-intercept represent?

4. The scatter plot below shows the number of emergency call received in relation to the temperature outside.



- 4a. What type of correlation is there in the data?

4b. What does the y-intercept represent?

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5. To determine how much money you will spend on a Xbox360, you could use the formula  $y = 60x + 400$   $x$  being the number of games purchased.

5a. What does the slope represent in this situation?

5b. What does the y-intercept represent in this situation?

6. Jasmine used the calculator to find the line of best fit for the relationship between two unknown variables. This is what she got:

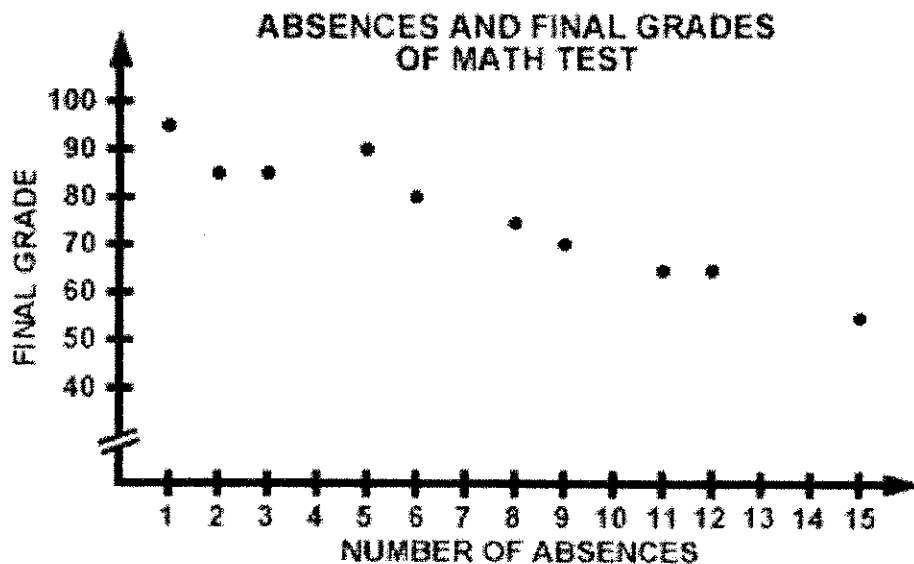
6a. Is the relationship positive or negative?

6b. What is the equation of the line of best fit?

6c. What is the correlation coefficient?

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LinReg
y=a+bx
a=-2.720356845
b=.4677438152
r2=.9930371328
r=.996512485
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7. Use the following scatter plot to answer the questions.



7a. Describe what the trend of the following scatter plot mean.

7b. What does the y-intercept mean?